

FIG. 1

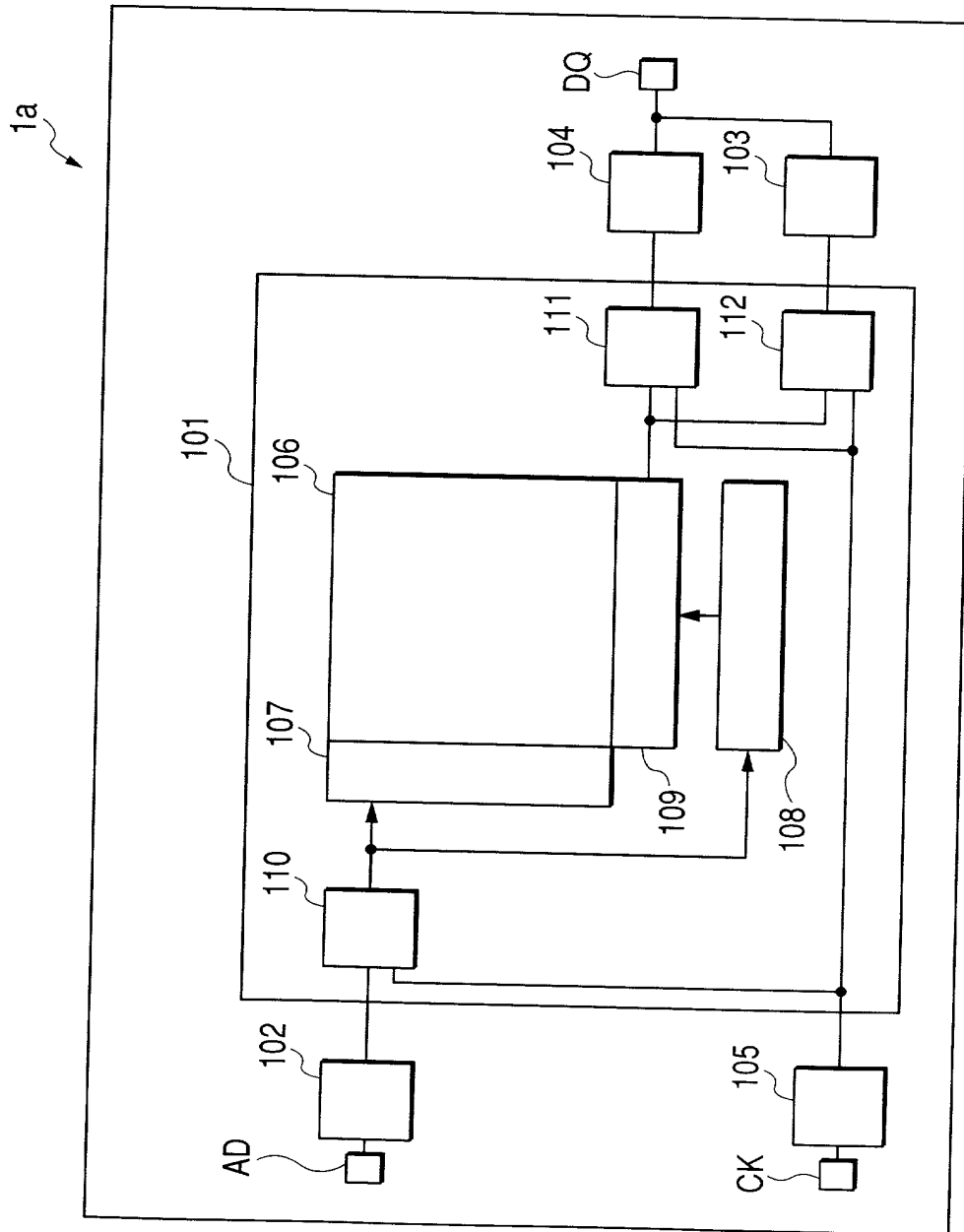


FIG. 2

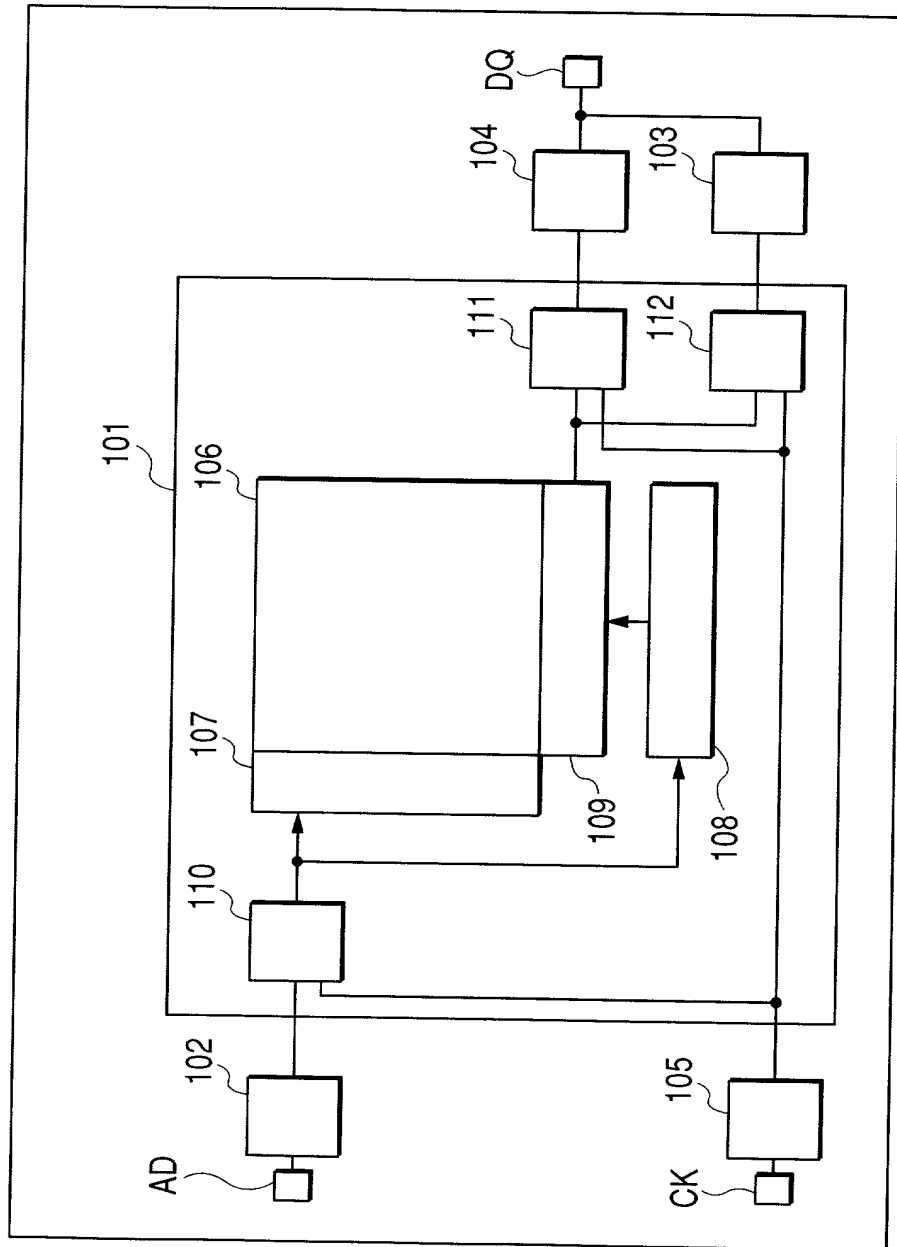


FIG. 3

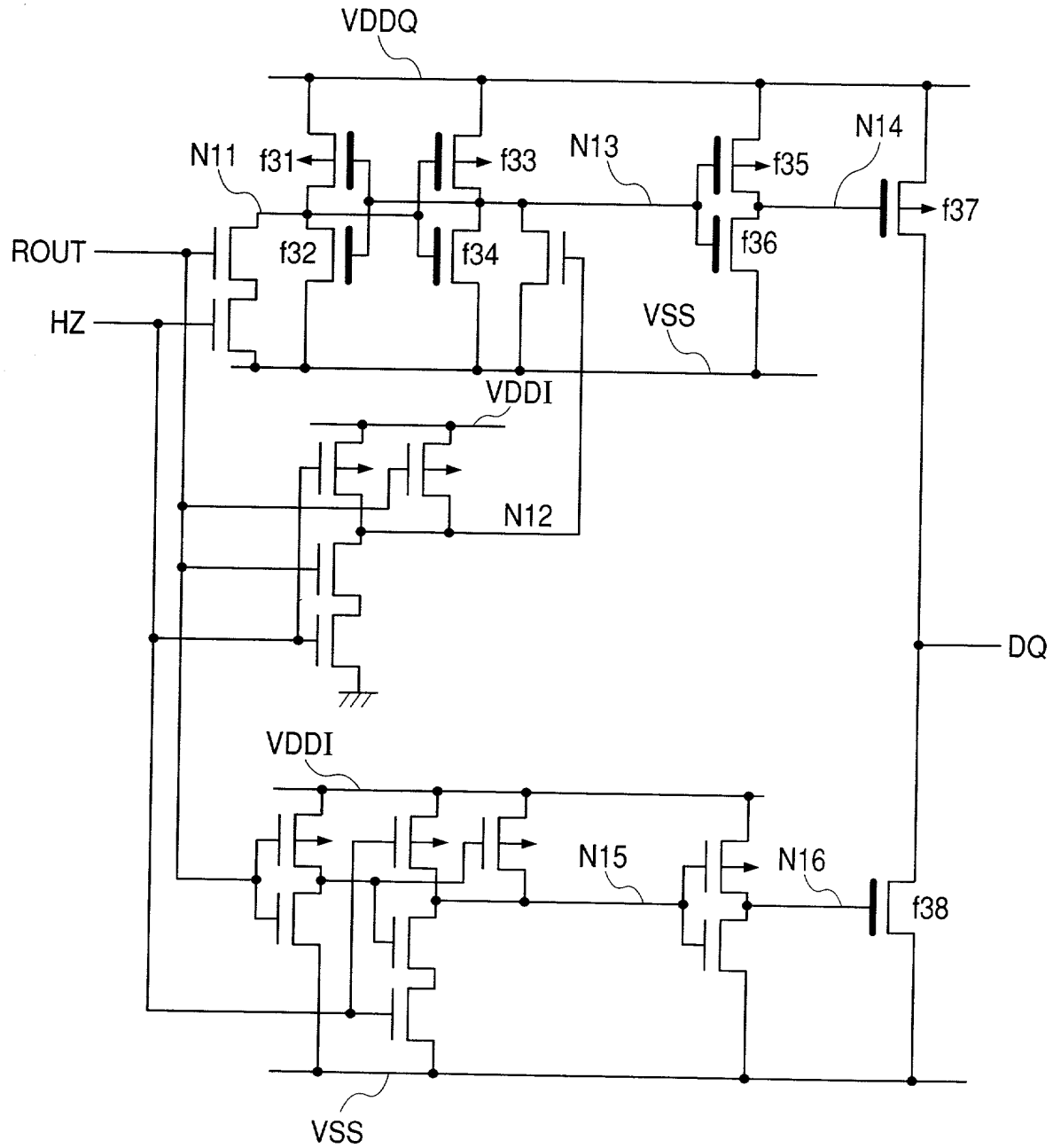


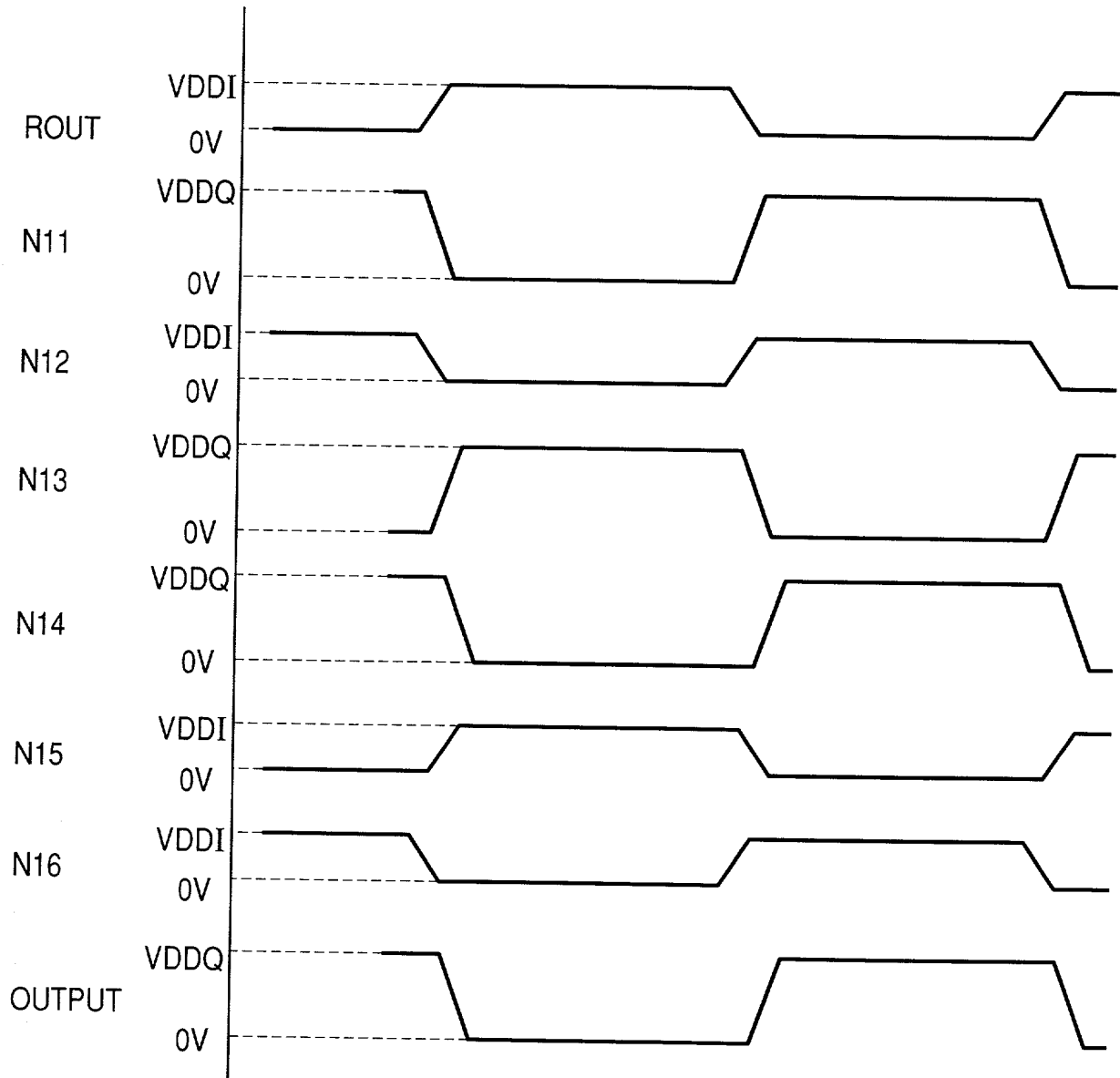
FIG. 4

FIG. 5

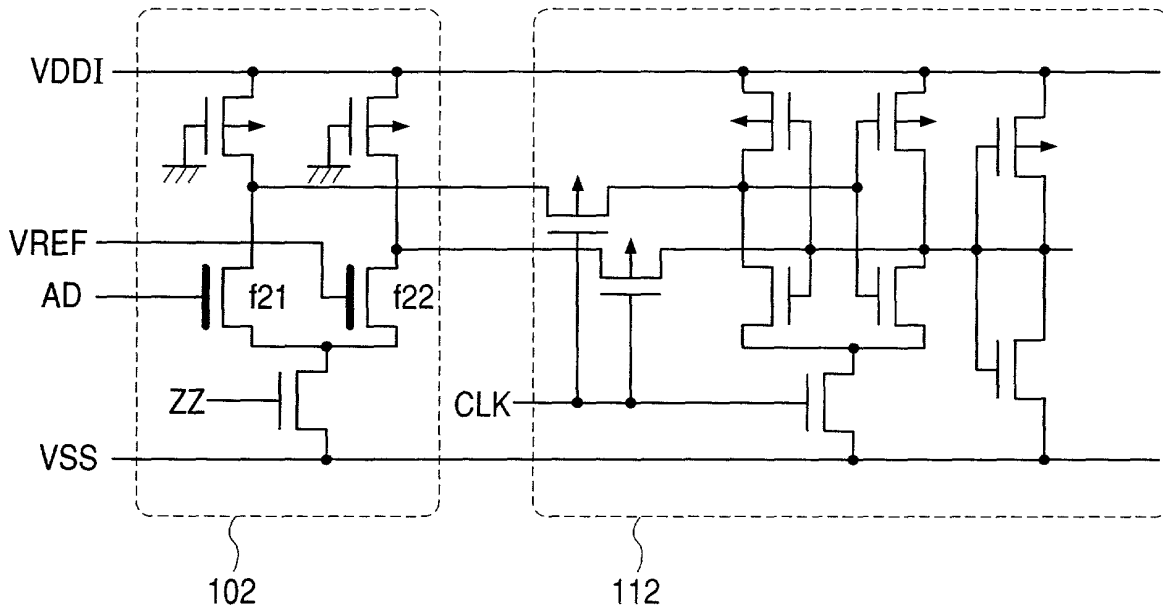


FIG. 6

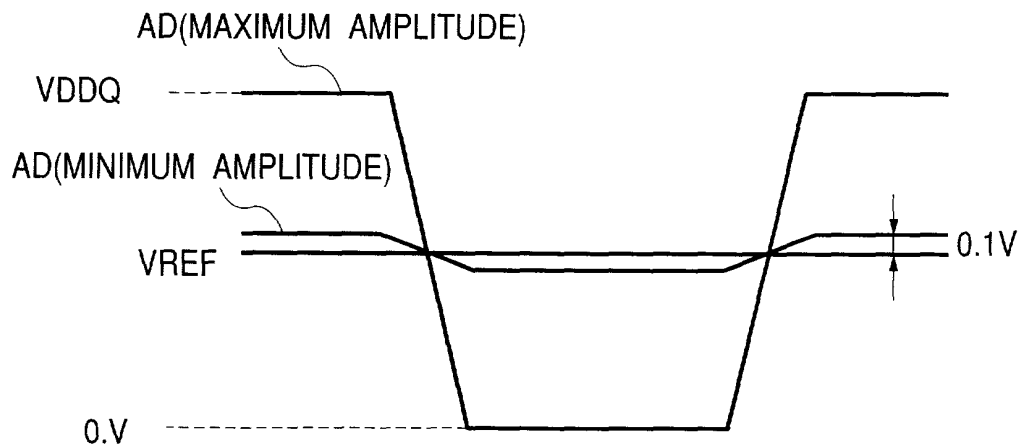
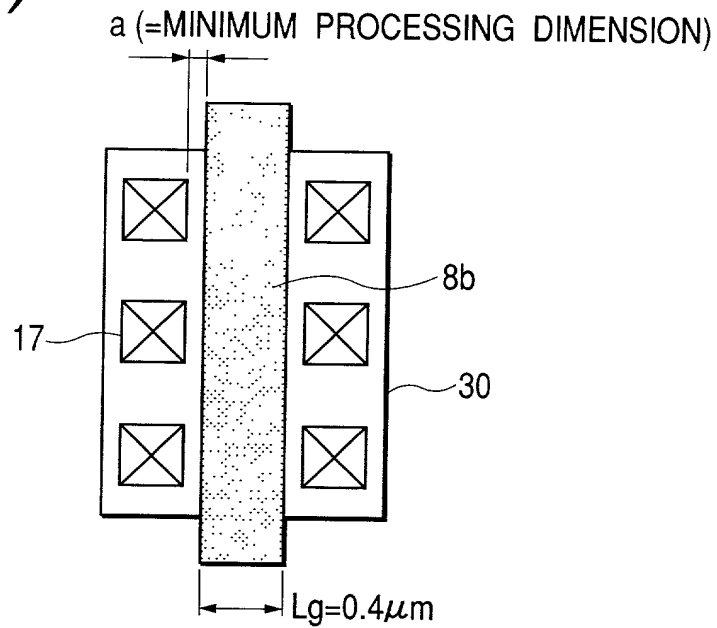
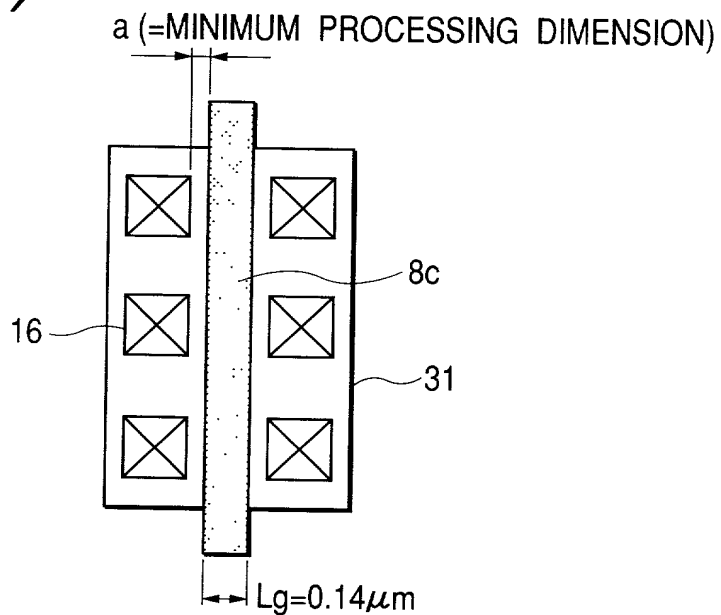


FIG. 7(a)



3.3V WITHSTANDING MOS TRANSISTOR

FIG. 7(b)



1.5V WITHSTANDING MOS TRANSISTOR

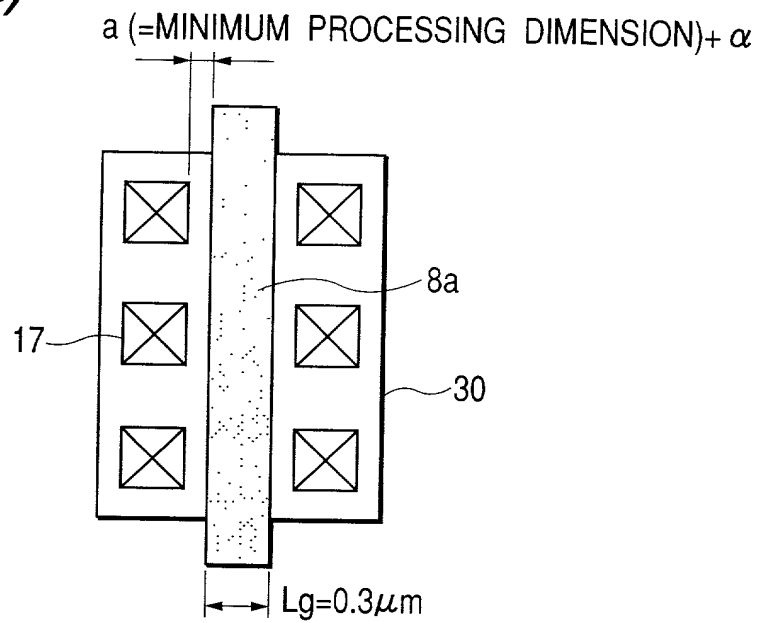
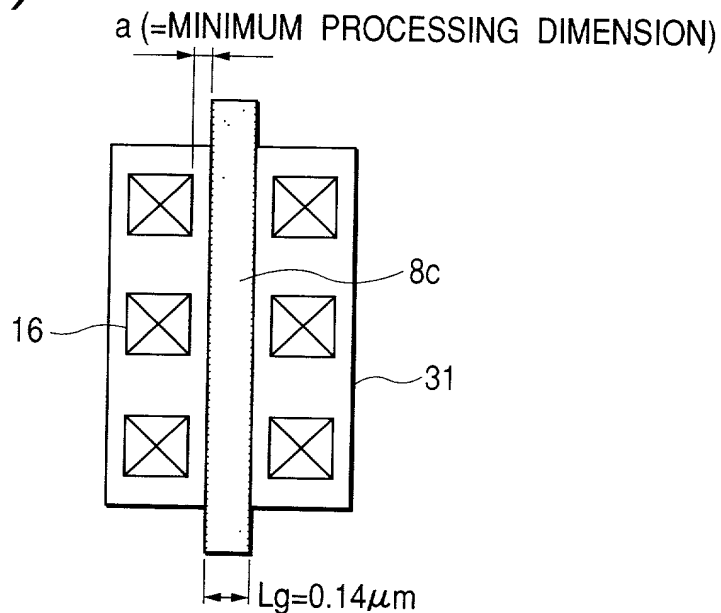
FIG. 8(a)**2.5V WITHSTANDING MOS TRANSISTOR****FIG. 8(b)****1.5V WITHSTANDING MOS TRANSISTOR**

FIG. 9

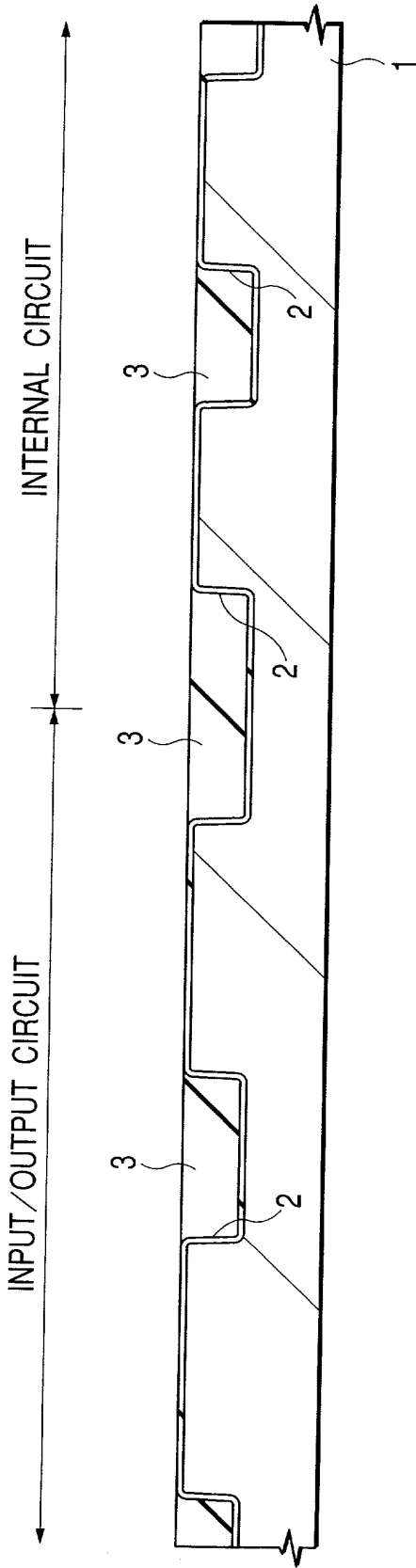


FIG. 10

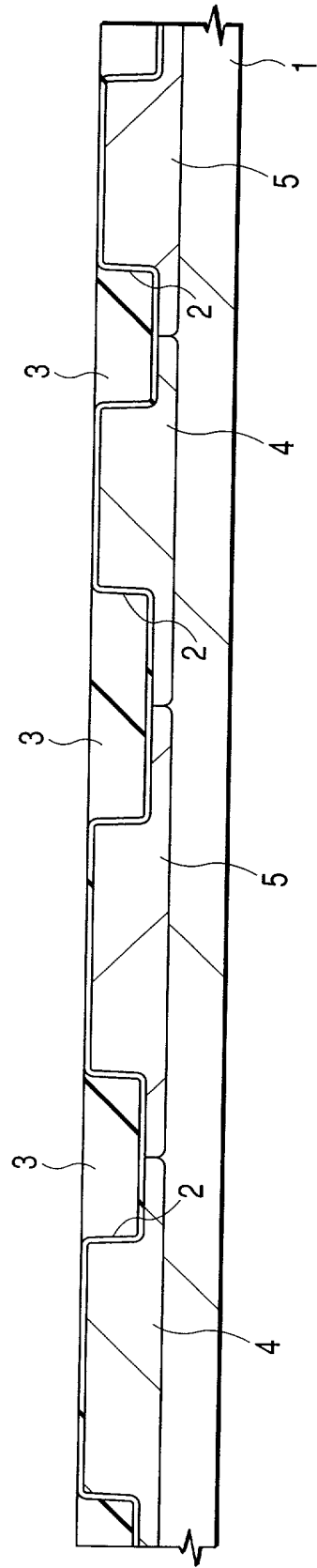


FIG. 11(a)

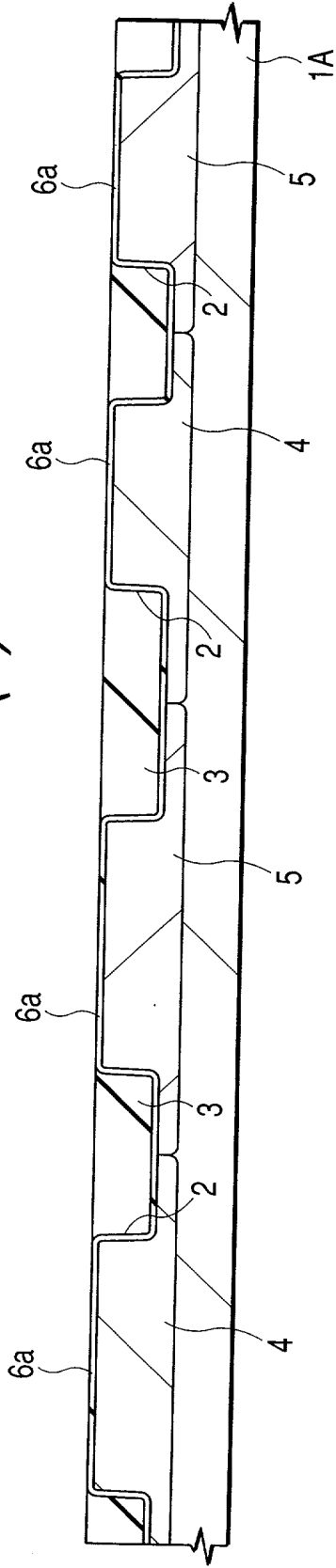


FIG. 11(b)

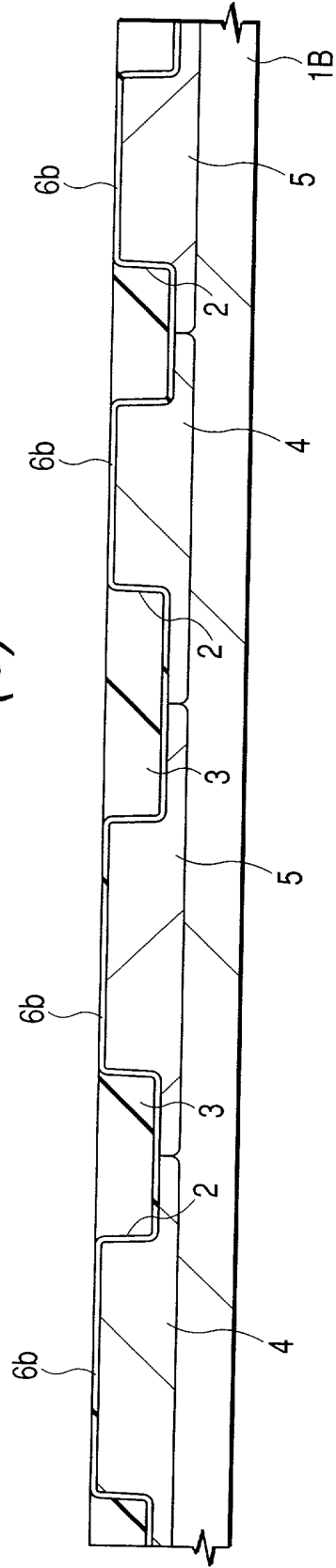


FIG. 12(a)

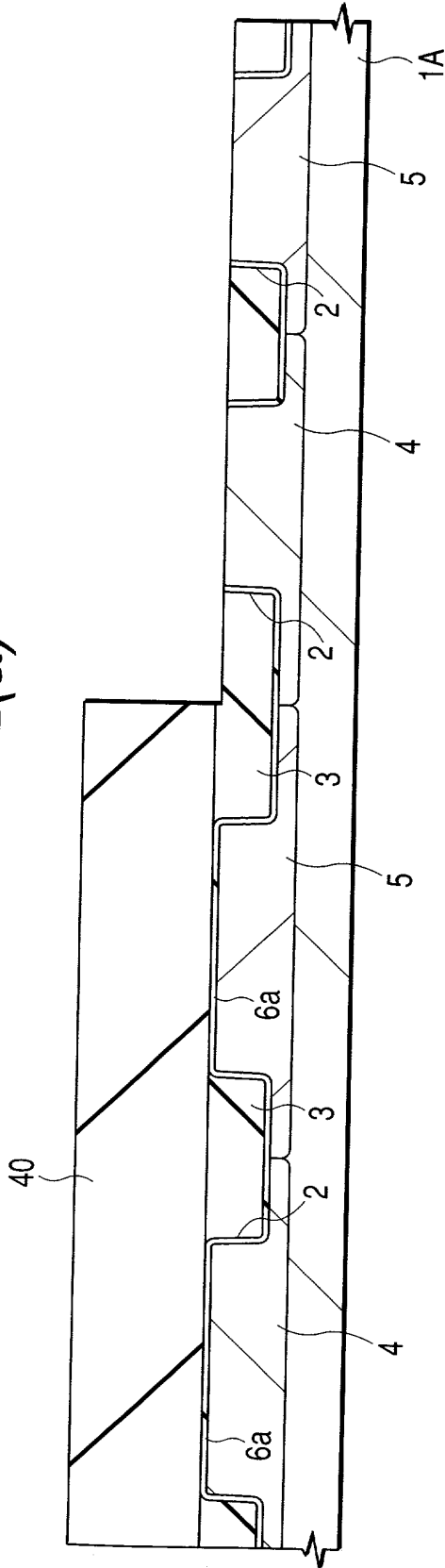


FIG. 12(b)

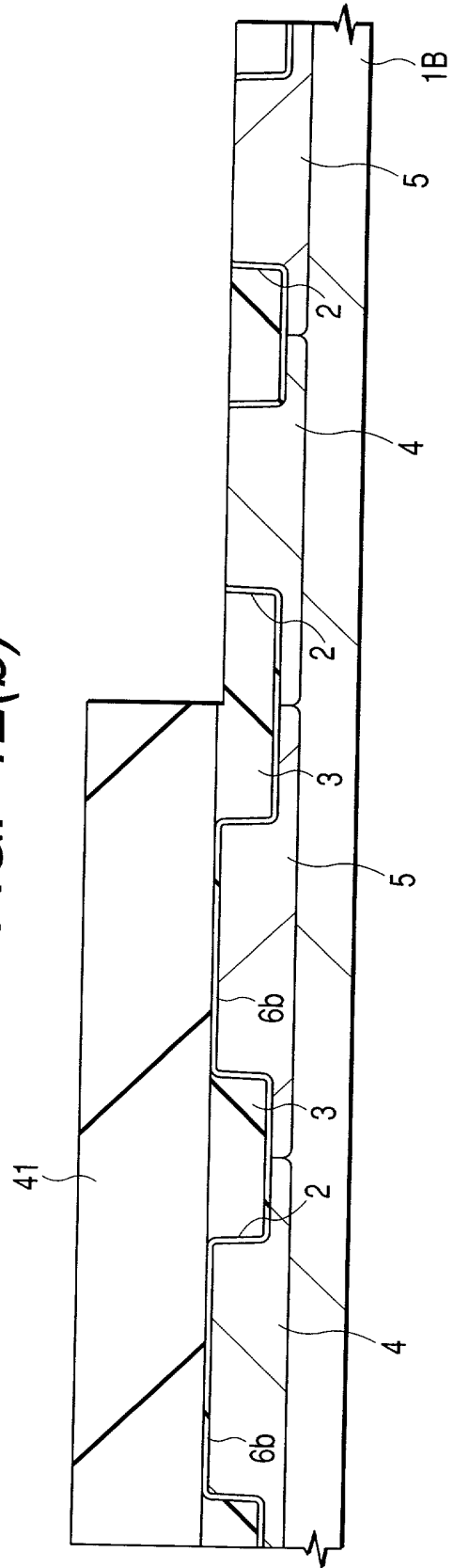


FIG. 13(a)

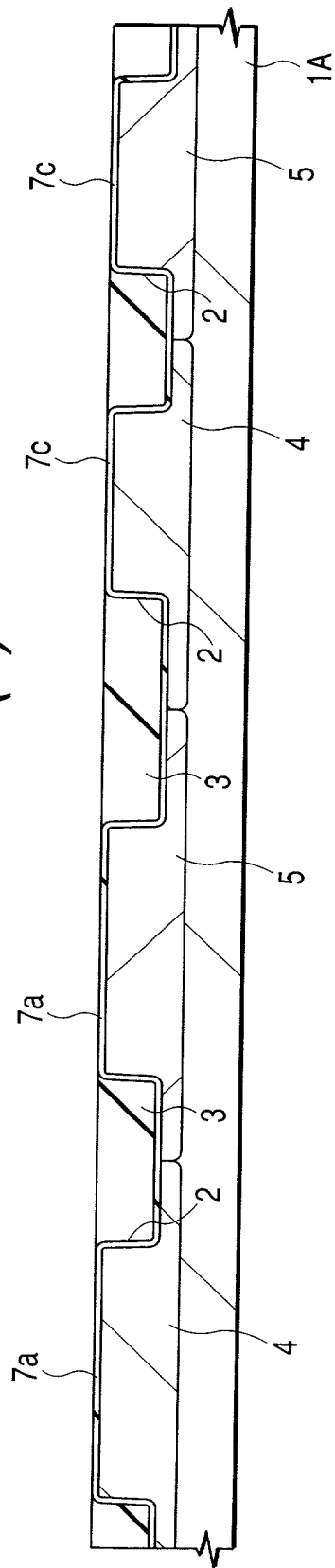


FIG. 13(b)

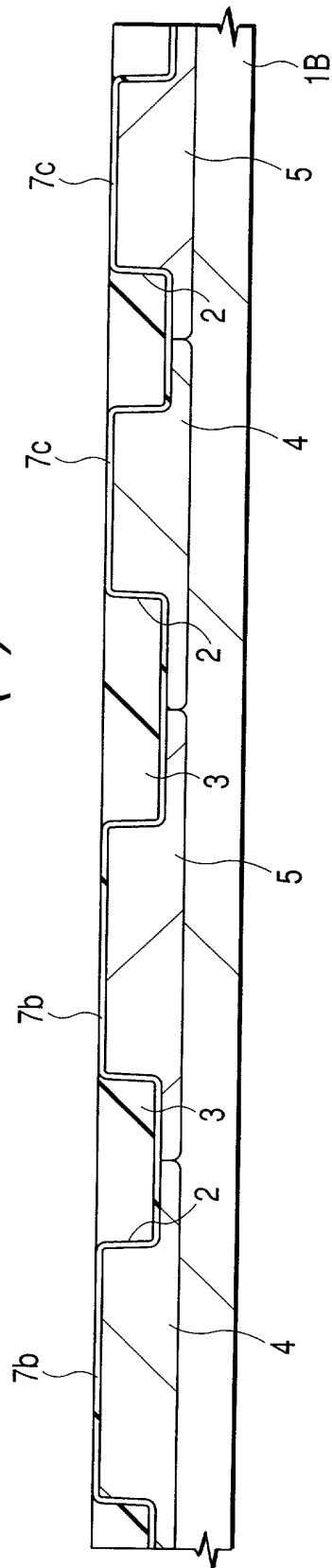


FIG. 14(a)

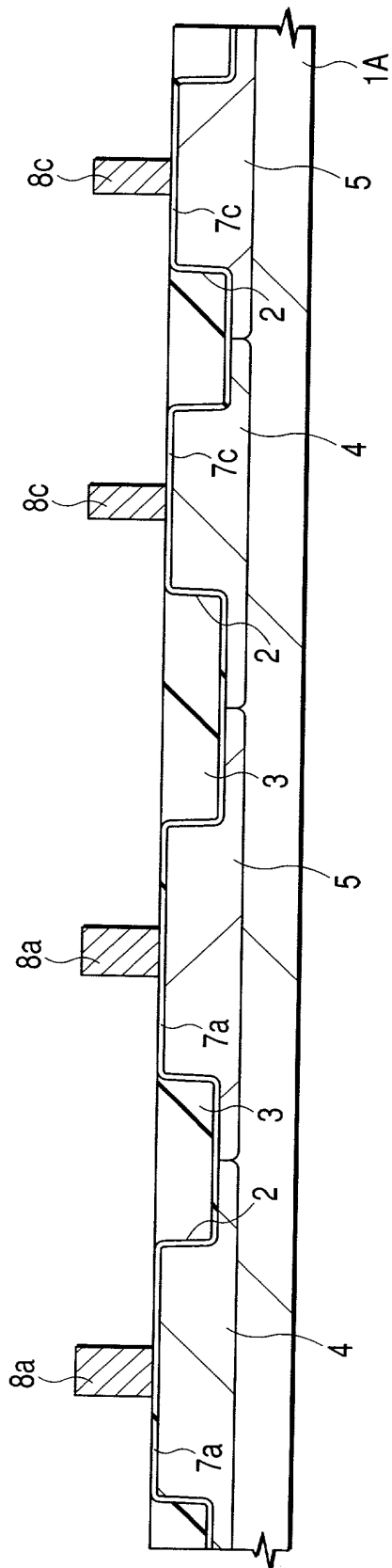


FIG. 14(b)

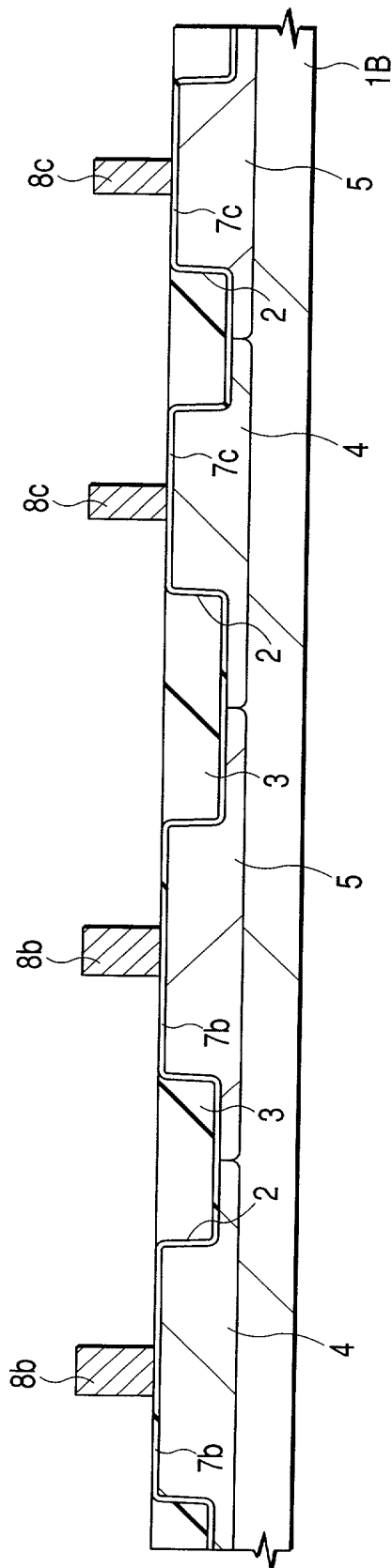


FIG. 15(a)

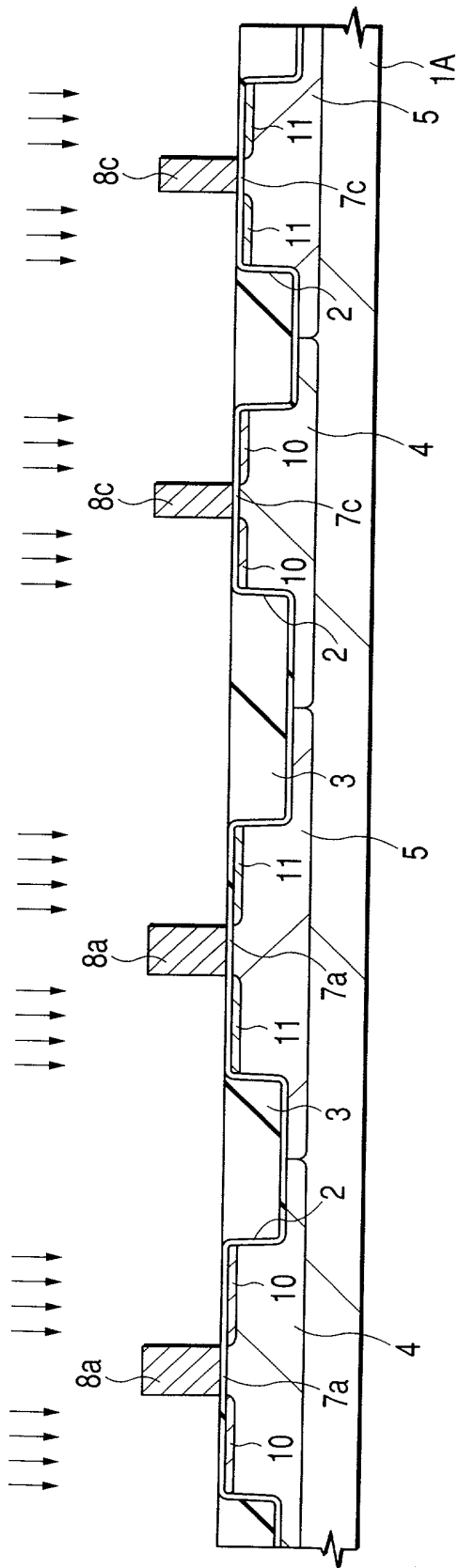


FIG. 15(b)

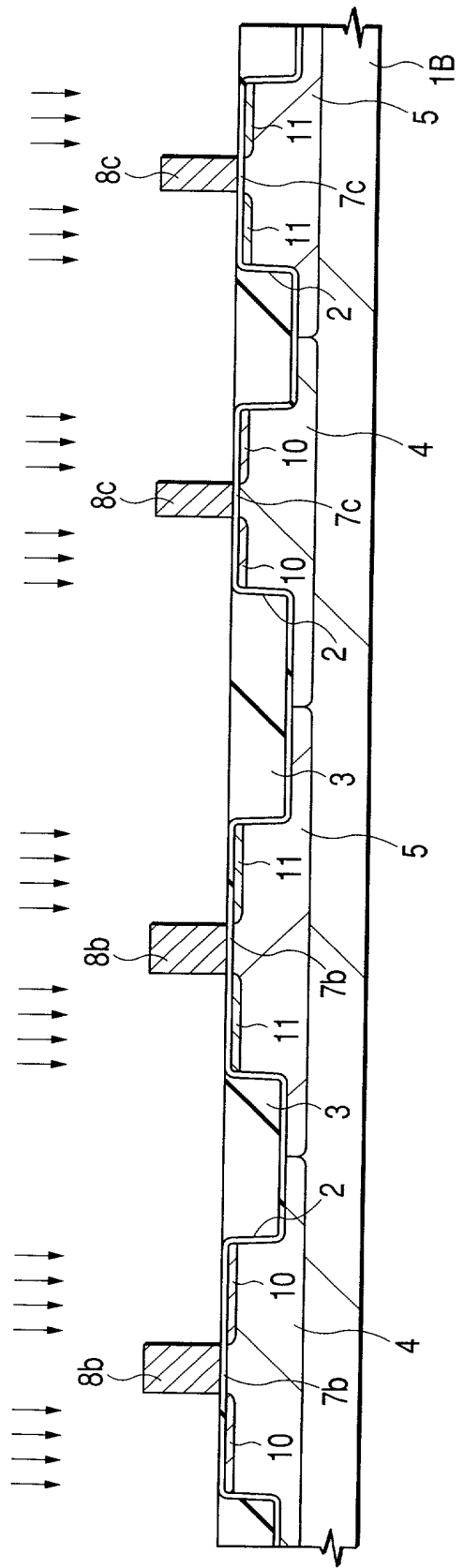


FIG. 16(a)

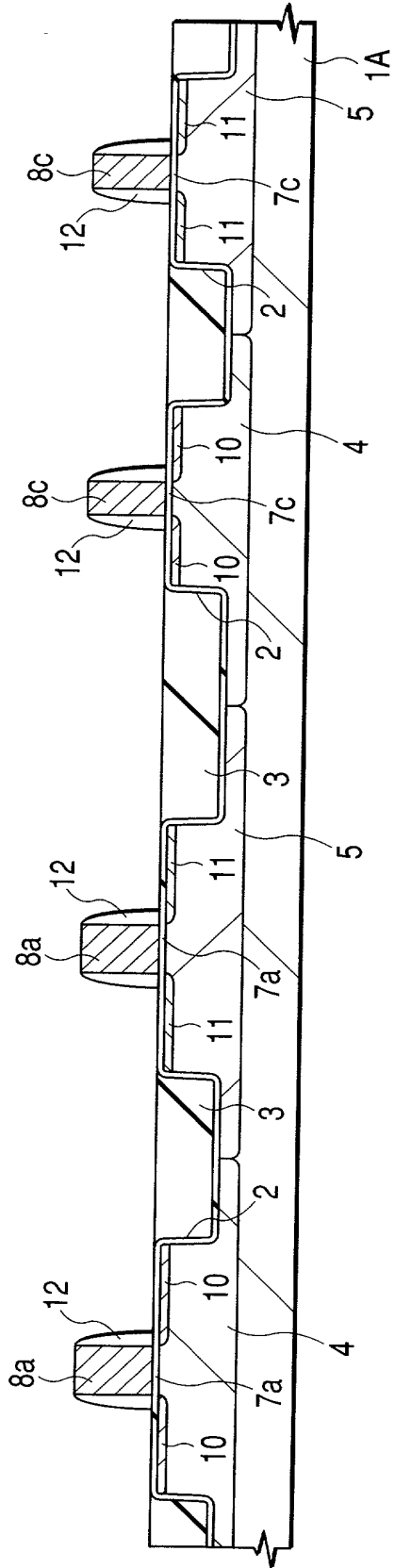


FIG. 16(b)

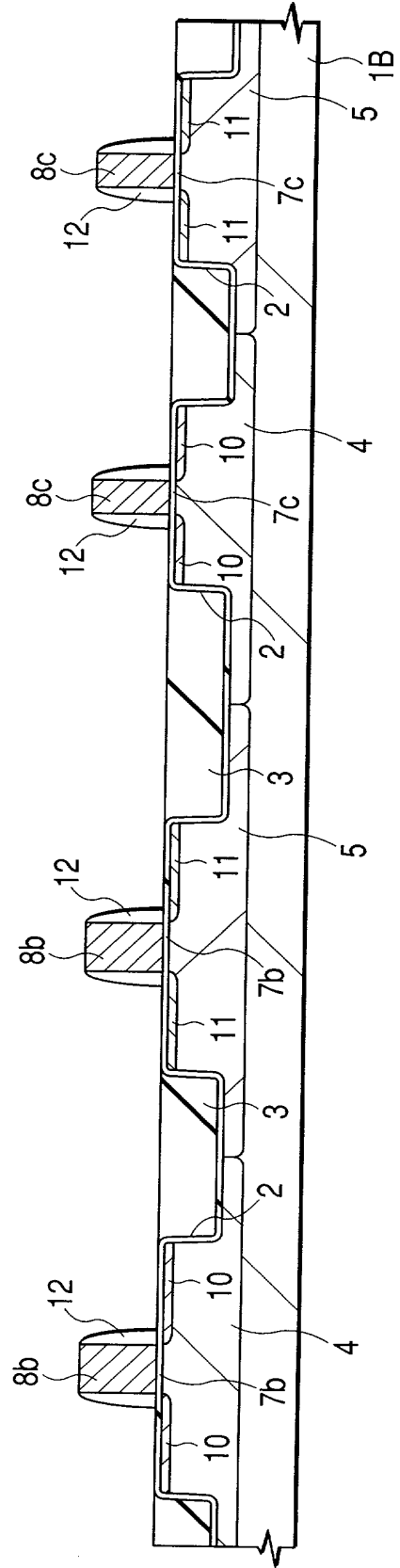


FIG. 17(a)

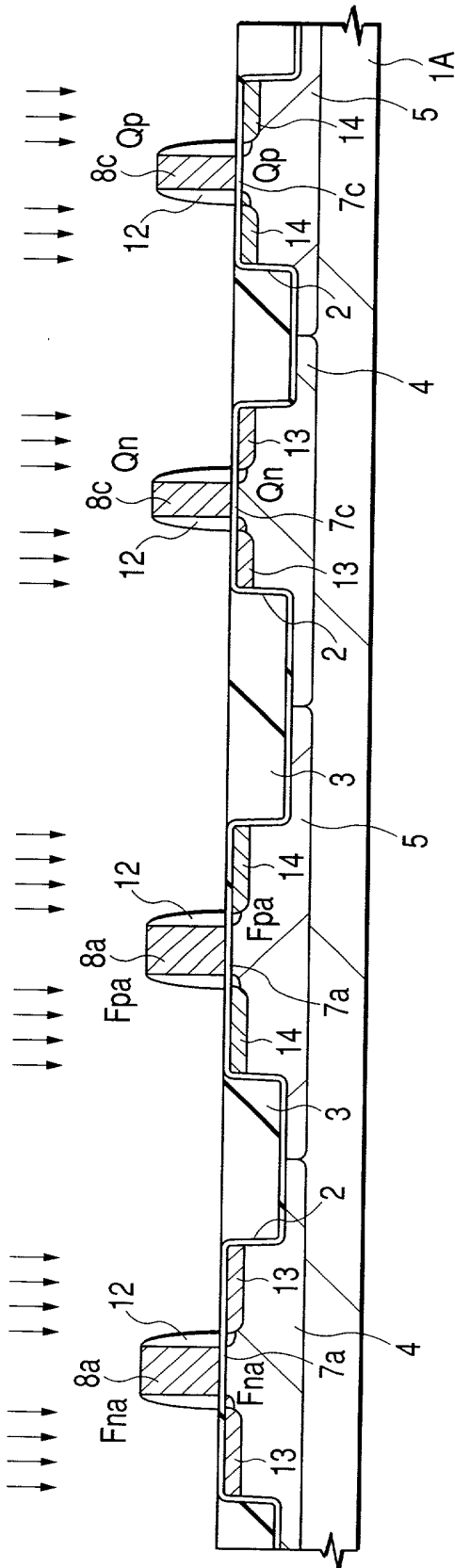
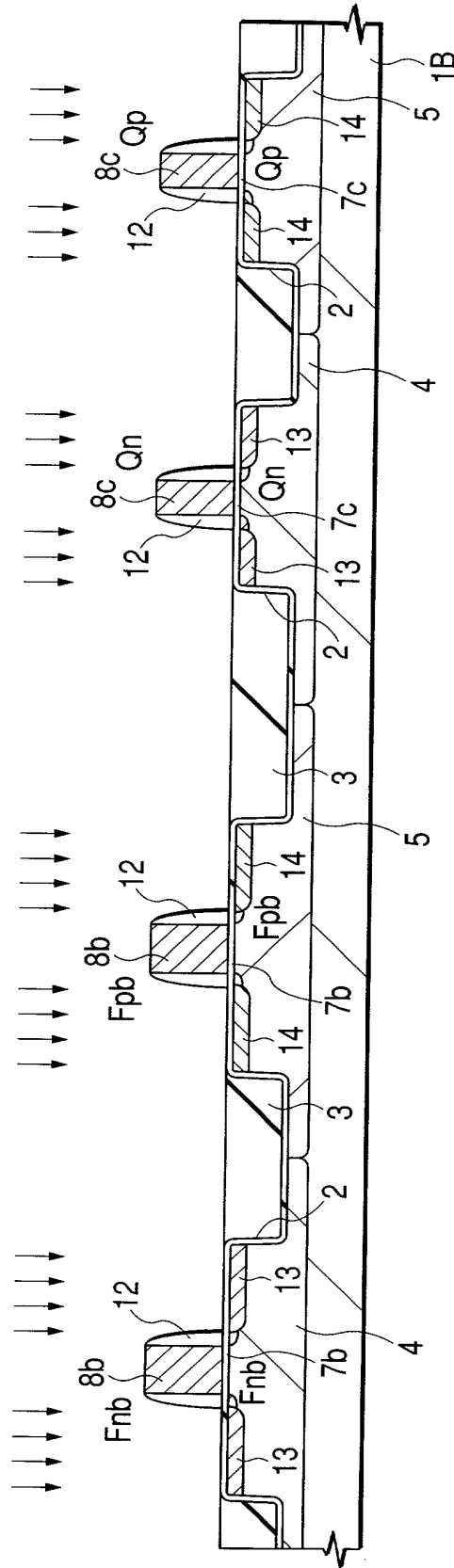


FIG. 17(b)



a (=MINIMUM PROCESSING DIMENSION)

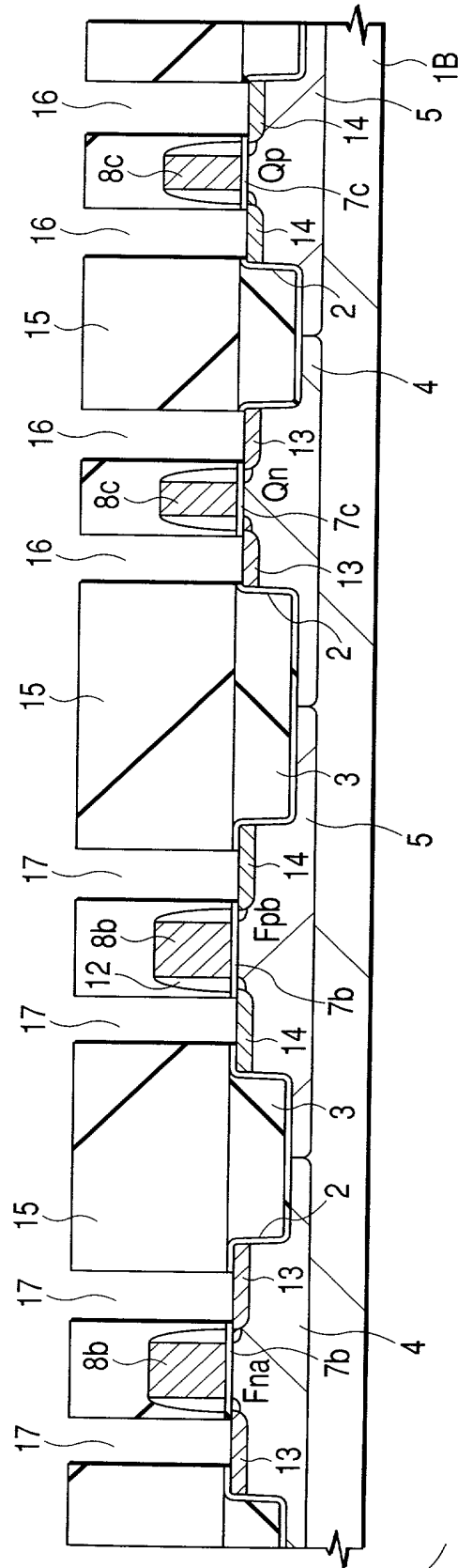
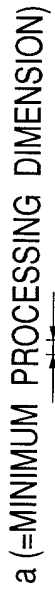


FIG. 20

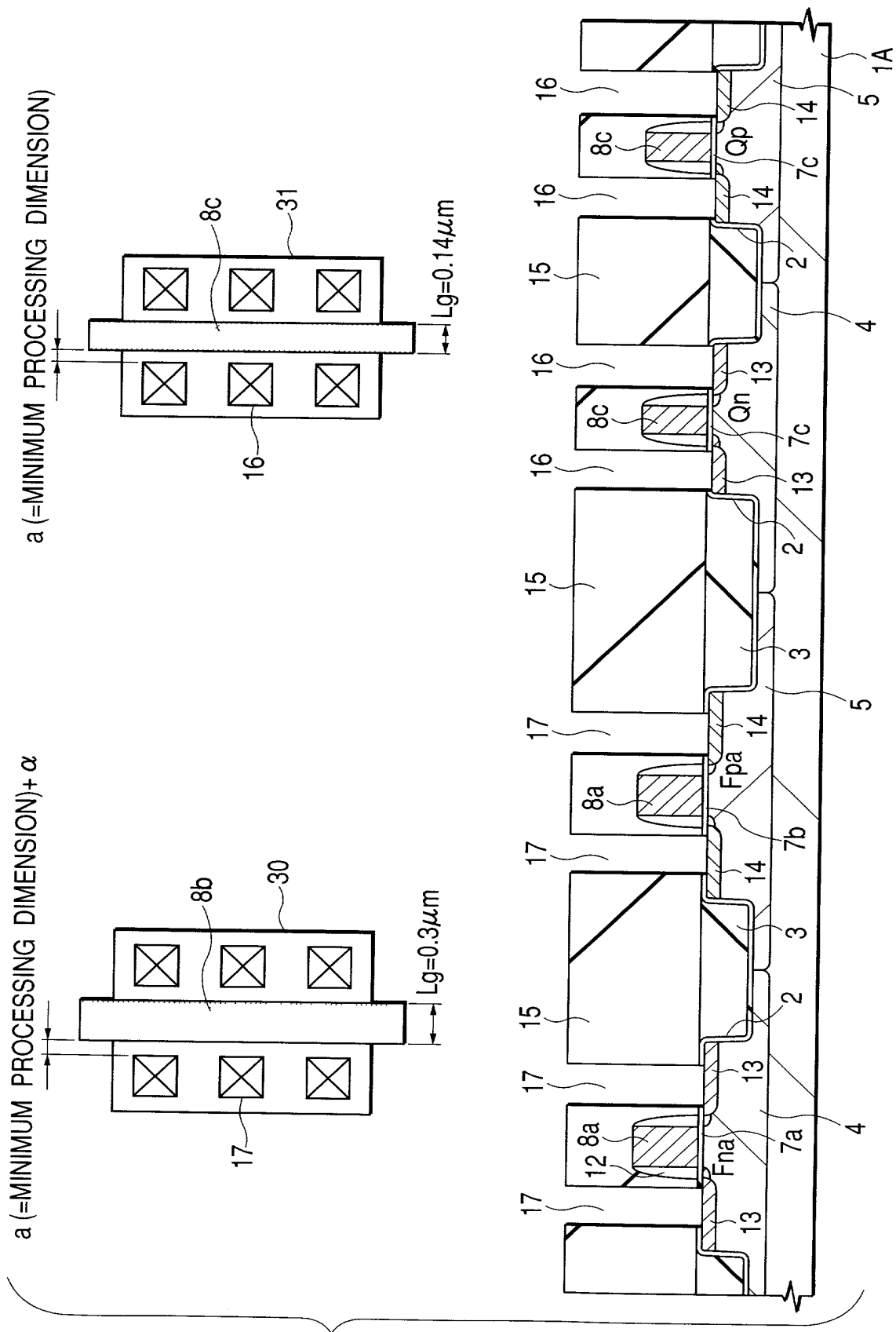


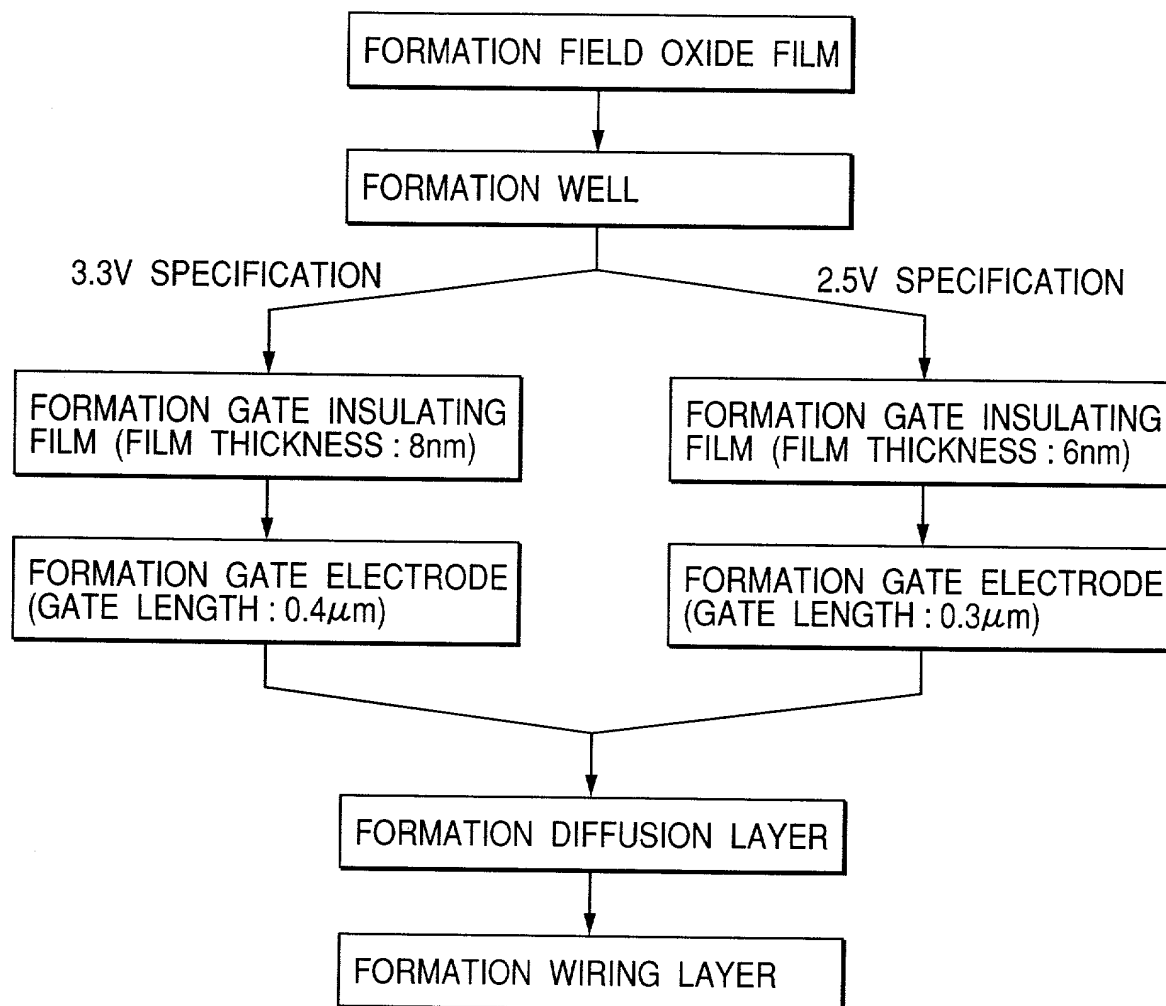
FIG. 23

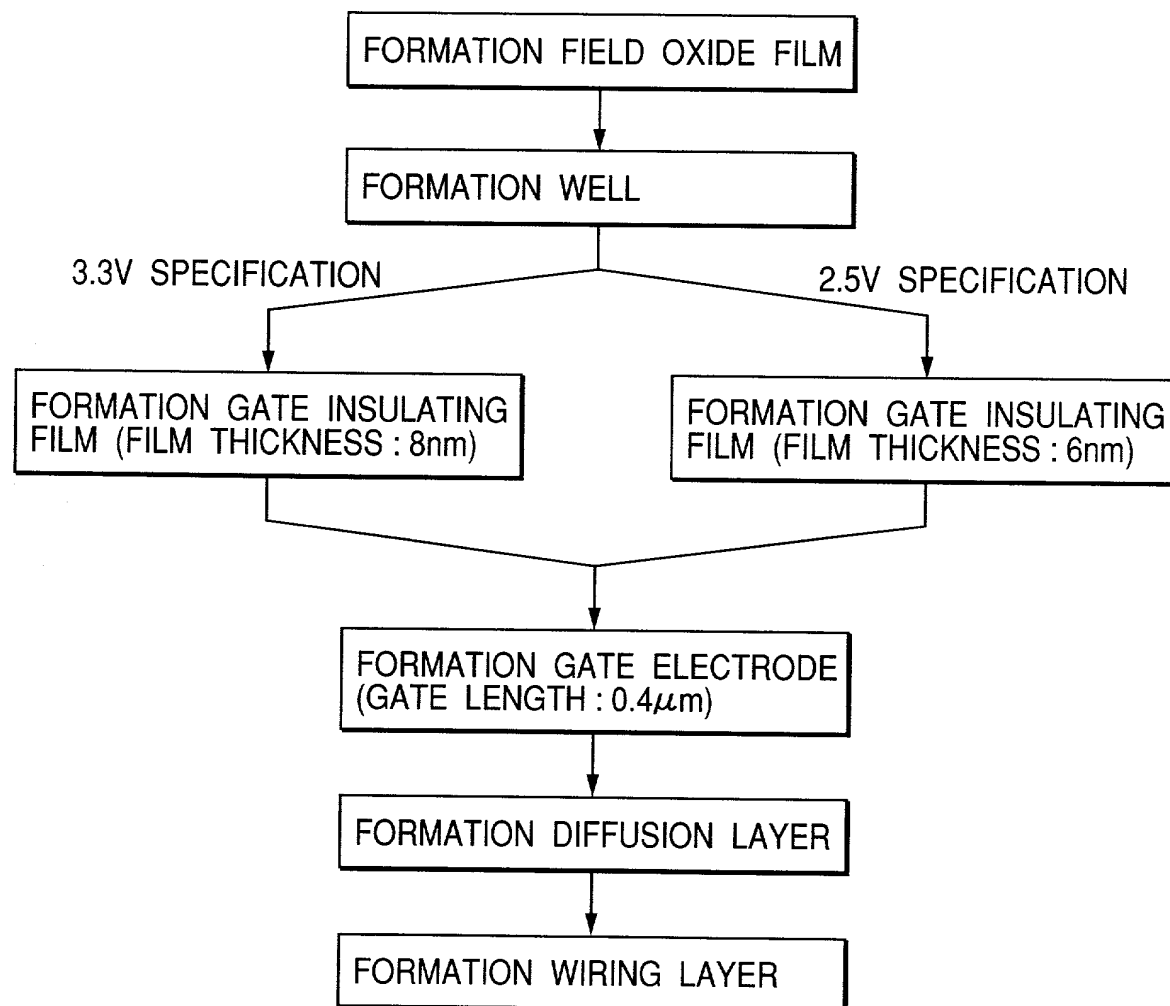
FIG. 24

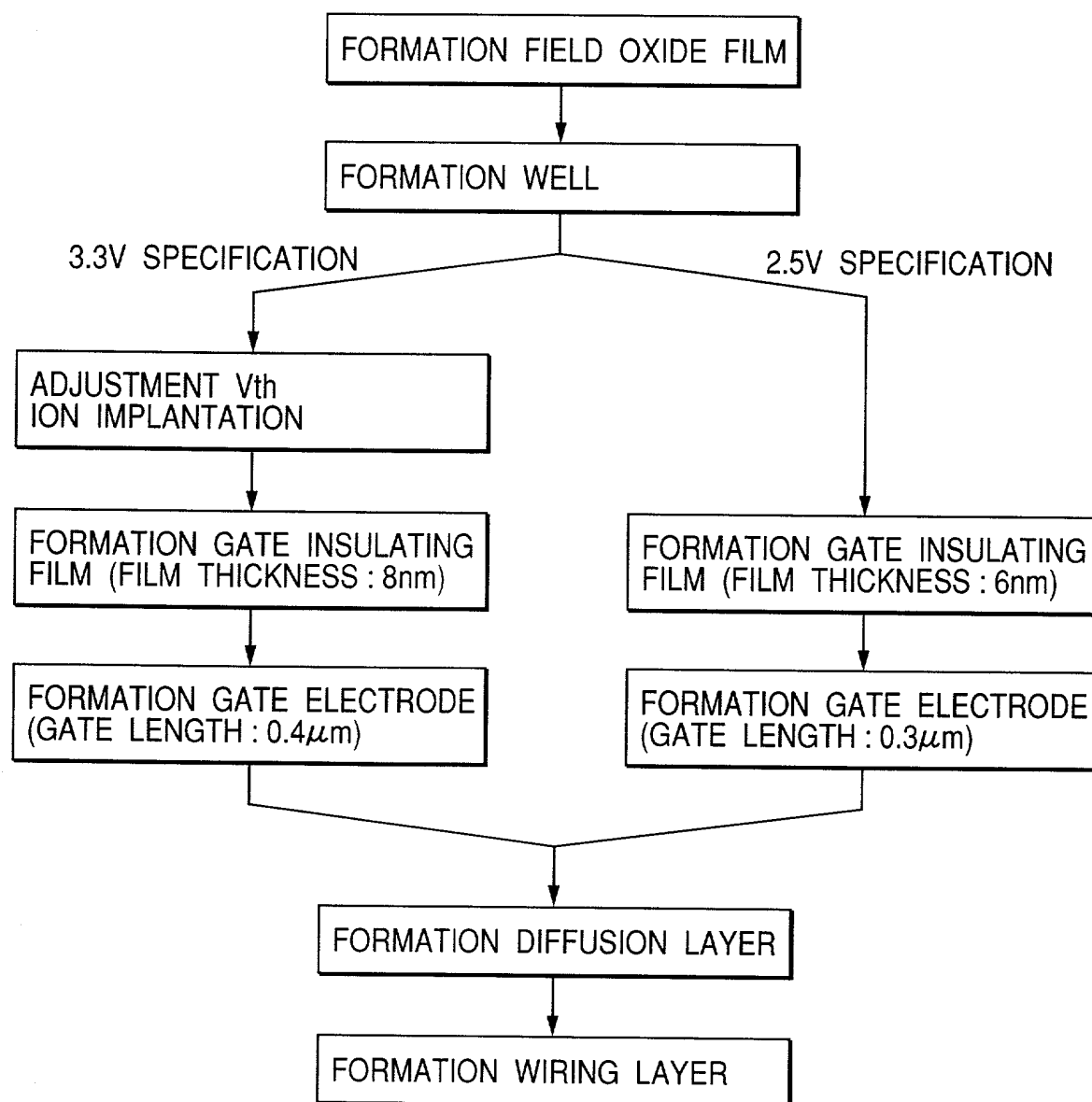
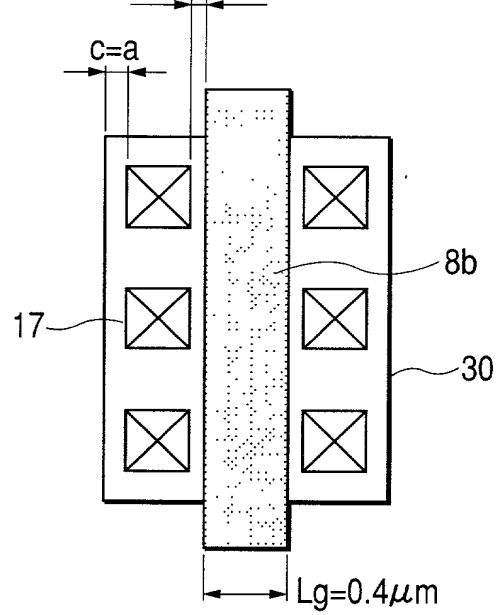
FIG. 25

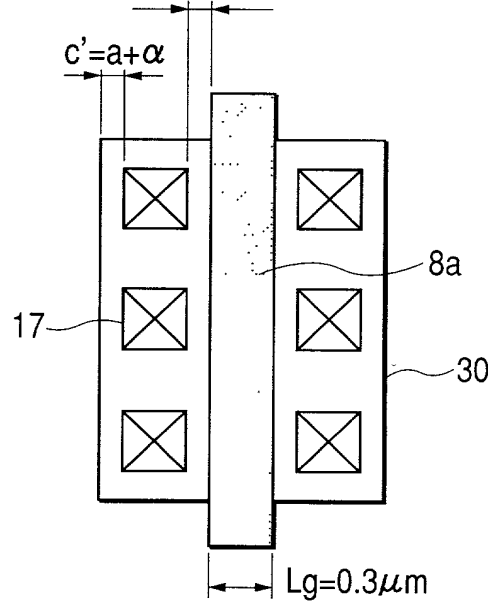
FIG. 26

a (=MINIMUM PROCESSING DIMENSION)



3.3V WITHSTANDING MOS TRANSISTOR

a (=MINIMUM PROCESSING DIMENSION)

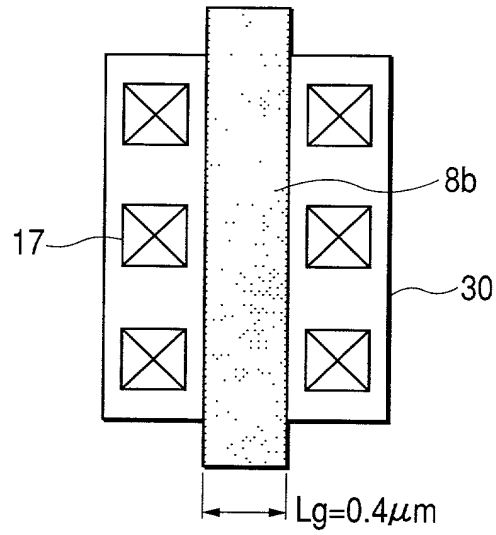


2.5V WITHSTANDING MOS TRANSISTOR

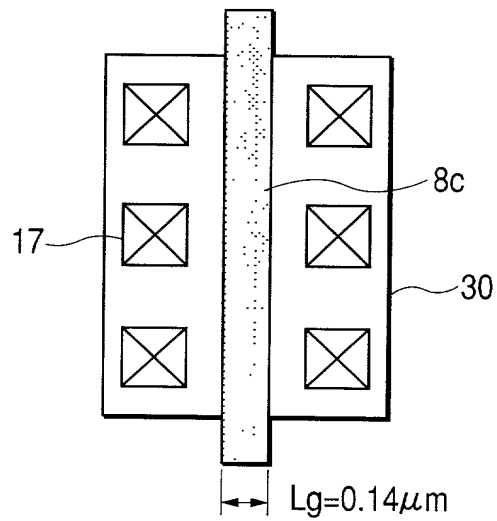
FIG. 27

SPECIFICATION	SUPPLY VOLTAGE	I/O SUPPLY VOLTAGE	INPUT SIGNAL LEVEL		SUPPLY VOLTAGE INTERNAL CIRCUIT
	VDD	VDDQ	VILmin	VIHmax	VDDI
3.3V SPECIFICATION	3.3V	3.3V	0V	VDDQ	1.5V
2.5V SPECIFICATION	2.5V	1.5V	0V	VDDQ	1.5V

FIG. 28



3.3V WITHSTANDING MOS TRANSISTOR



2.5V WITHSTANDING MOS TRANSISTOR

FIG. 29

SPECIFICATION	SUPPLY VOLTAGE	I/O SUPPLY VOLTAGE	INPUT SIGNAL LEVEL		SUPPLY VOLTAGE INTERNAL CIRCUIT
	VDD	VDDQ	VILmin	VIHmax	VDDI
3.3V SPECIFICATION	3.3V	3.3V	0V	VDDQ	1.5V
2.5V SPECIFICATION	2.5V	2.5V	0V	VDDQ	1.5V

FIG. 30

	GATE INSULATING FILM THICKNESS	MINIMUM PROCESSING GATE LENGTH
	TOX	Lg
3.3V WITHSTANDING MOS	8nm	0.4 μ m
2.5V WITHSTANDING MOS	6nm	0.3 μ m
1.5V WITHSTANDING MOS	3nm	0.14 μ m

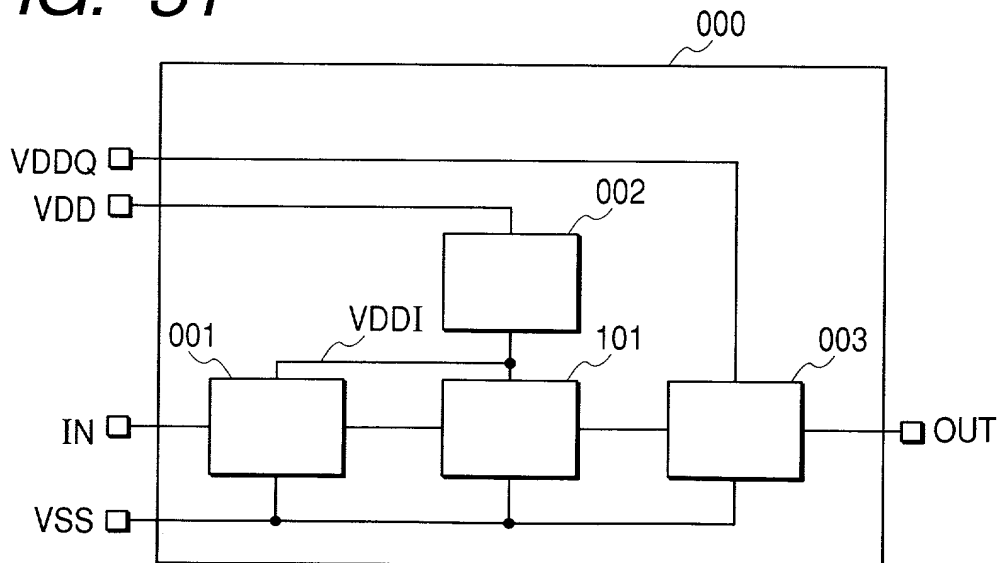
FIG. 31

FIG. 32

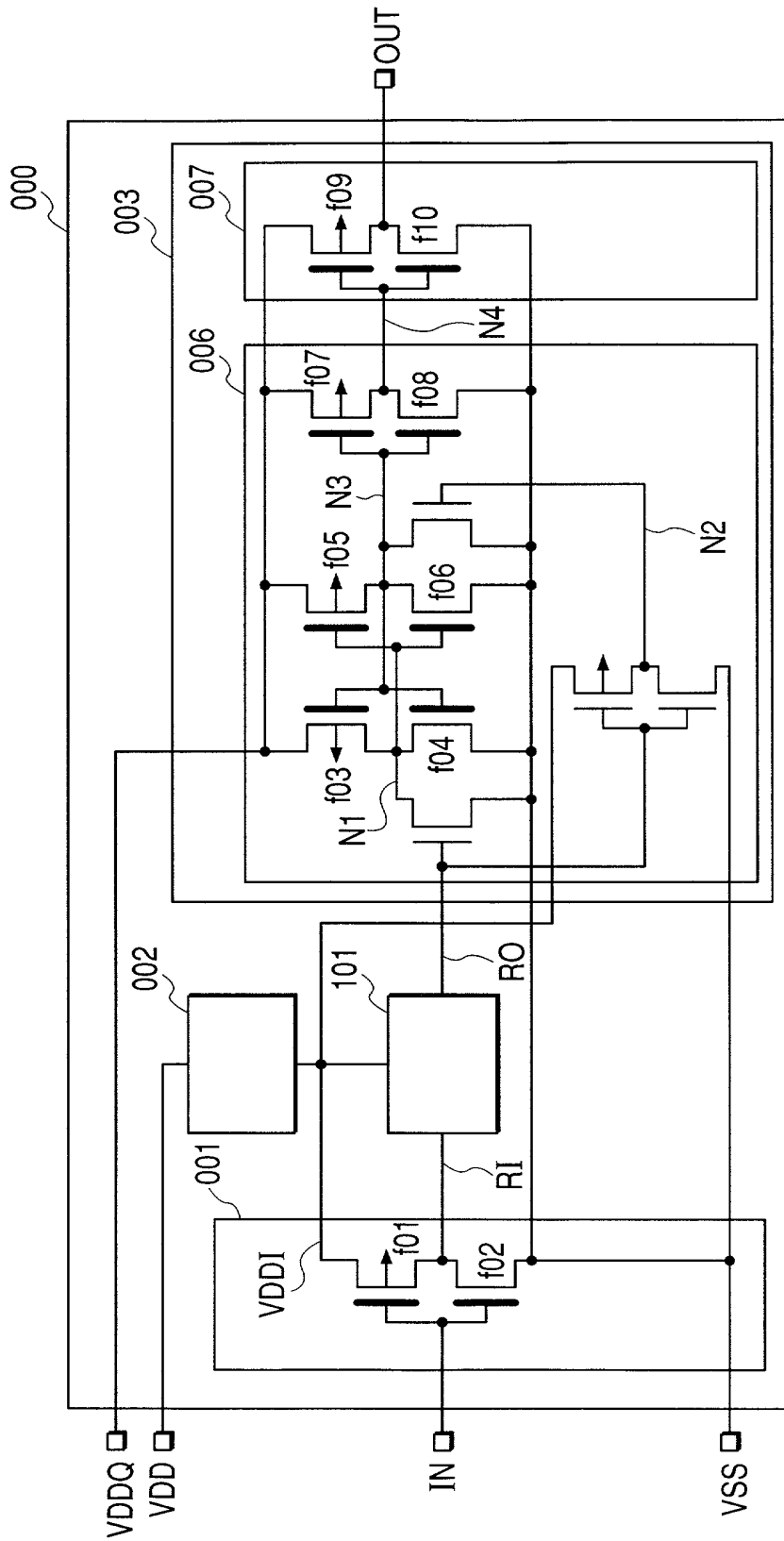


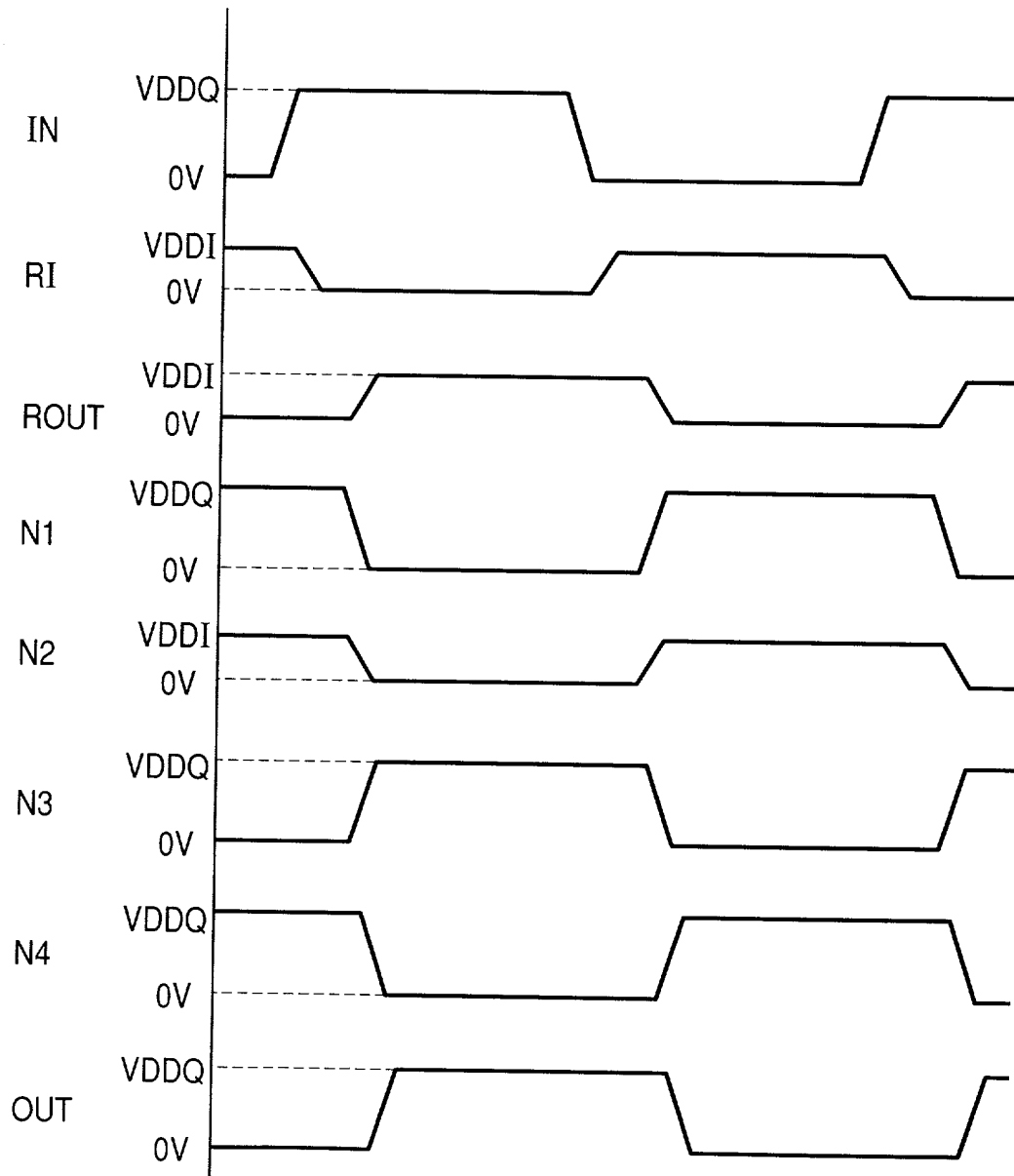
FIG. 33

FIG. 34

